



# The Effectiveness of Individualized Neuropsychological Rehabilitation Program for a College Student with Diffuse Axonal Injury on Improving Adaptation of Returning to Campus : A Case Report

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## Background

Due to the deficits in neuropsychological function, young patients with traumatic brain injury (TBI) might be difficult to return to the community. As the global cognitive function and activities of daily living (ADLs) are getting better, young patients with TBI still have local neuropsychological deficits which is less awareness but do affect school adaptation after discharged. Based on Neuropsychological Rehabilitation Program (NRP), practitioners would design an individualized intervention according to the local neuropsychological deficits and ecological factors in different post-TBI stages. This article provides the effectiveness of application of NPRP for a patient with TBI to return to campus.

## Methods

The patient is 20 years old, a second-year student at the National University. He suffered from TBI with diffuse axonal injury (DAI) after a traffic accident. After referral, he accepted the individualized intervention based on NRP, focus on the attentional capacity, efficiency of attention, verbal short-term memory, executive function, planning, self-awareness, and self-regulation. The training program including five phases was designed with ecological components, the main training goal and difficulty of tasks would be adjusted in each phase.

## Results

Before intervention, the score was 28/33(26/27) in Mini-Mental Status Examination-Chinese Test (MMSE-C) which revealed that the patient's global function isn't impaired. In Luria-Nebraska Neuropsychological Battery-Screening Test (LNNB-S), the score of deficits was 10/30(7/8) which showed local neuropsychological deficits. The result of Comprehensive Nonverbal Attention Test (CNAT) showed that the attentional capacity and efficiency of attention are impaired. After a two-year-training program, the results of neuropsychological assessment revealed that the impaired functions improved (MMSE-C:32/33, LNNB-S:1/30). The patient didn't report that he met obvious difficulties of campus life. Besides, the patient's academic performance was nearly returned to baseline, and he continued to study master degree as planning. Furthermore, the worries of family decreased.

## Conclusion

The local neuropsychological deficits after TBI would affect the adaptation of returning to campus. It might affect academic performance, self-efficacy, and social interaction. This case suggests that the application of NRP which target on local neuropsychological deficits is effective in improving adaptation of returning to campus for the youth after TBI.

Key words: diffuse axonal injury (DAI), Neuropsychological Rehabilitation Program (NRP), return to campus